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ABSTRACT

To meet North Carolina's growing need for workers with sophisticated skills, the state's schools should (1) establish partnerships with local businesses and community groups; (2) improve their curricula by setting minimum competencies and helping all students attain them; (3) increase the opportunities, rewards, and growth potential of the teaching profession; (4) improve the learning environment by reducing class size, maintaining discipline, and providing more and better technology, materials, and facilities; (5) improve school leadership and management with more opportunities and better training for administrators; and (6) strengthen existing programs and establish new ones for students with special needs. This four-chapter report discusses, first, the trends requiring educational reform, the link between education and economic growth, and North Carolina's historic and recent educational reforms; second, tasks the state's educational system must accomplish; third, the above six recommendations; and fourth, investments and efforts needed to effect this plan. Proposed amplifications and additions to the plan are appended. Accompanying the report is an executive summary explaining the rationale for the plan and outlining the action recommendations. (MCG)

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Education for Economic Growth

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An Action Plan for North Carolina

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THE REPORT AND RECOMMENDATIONS
OF

THE NORTH CAROLINA COMMISSION ON EDUCATION FOR ECONOMIC GROWTH

“ . . . It is time, in our judgment, to put learning first. We must make it clear that the academic mission of our public schools is their paramount mission . . . If our schools fail to teach and to teach well, it will matter little in the end that they succeed in other things.”

—The Commission

Education for Economic Growth

An Action Plan

for

North Carolina

The Report and Recommendations
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The North Carolina Commission on Education for Economic Growth

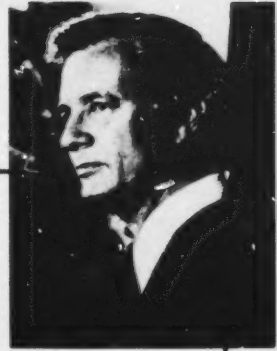
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STATE OF NORTH CAROLINA
Office of the Governor
Raleigh 27611

TO THE PEOPLE OF NORTH CAROLINA:

The recommendations of the Commission on Education for Economic Growth form a blueprint for improving North Carolina's public schools; they provide a plan for ensuring the future prosperity and well-being of our children and the continuing soundness of our state's economy.

These recommendations have one overwhelming, urgent theme: *raised expectations* — raised expectations for students, for teachers, for parents, for school leaders; raised expectations for what our schools must and can accomplish.

A state can postpone some public needs, for a time, without dire consequences — but not education; if we fail there, our failures may never be repaired. For, in education, we touch lives. All whose decisions influence the quality of our schools — parents, teachers, businessmen and women, administrators, board members, legislators, and other citizens — are touching lives. We are leaving a legacy. We are affecting eternity. Let us do it well.

April 1984

A handwritten signature in dark ink, which appears to read "J. B. Hunt".



C. D. Spangler, Jr.
Chairman
North Carolina State
Board of Education

A STATEMENT

"A person who loves our public schools, and yet who wants them to change in order to meet the needs of future students, runs the risk of sounding unappreciative of past efforts of teachers and principals. I often find myself in that position.

"As a parent of two daughters who have benefited greatly by their experiences in North Carolina public schools, I am deeply grateful to the many dedicated teachers and principals who do their work well even with inadequate compensation. Yet, I strongly suspect that *certain changes are called for* in our schools in the future.

"This report by the Commission on Education for Economic Growth does two things. First, it strengthens those things which are right in our schools. Second, it suggests changes which might be difficult but which will be worthwhile.

"In sum, the report places *greater expectations* on us all — on students, teachers, principals, school boards, legislators, and governors.

"I believe North Carolina will live up to those expectations."

Blair W. Worley
Chairman
North Carolina Business Committee
for Math/Science Education



A STATEMENT

"The business leaders of North Carolina understand the relationship between good schools and a strong economy. Business has been committed to supporting higher education and technical training for decades. But today we are seeing a real awakening to the needs of our elementary and secondary schools. That awakening centers on education for economic growth. Our Business Committee for Math/Science Education exemplifies the growing concern of business for our schools.

"Business is willing to help. We do not have all the answers, but we are willing to help find them. Above all, business is ready to support real changes in education — not just more of the same. This report contains recommendations for real, lasting change. I commend it to all citizens of North Carolina, but to business leaders most of all. Our commitment to better schools is a commitment to economic progress, and business must play a key role in fulfilling that commitment."

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For Economic Growth

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Chapter I

EDUCATION FOR ECONOMIC GROWTH: CHANGE AND PROGRESS

In June 1901 Governor Charles B. Aycock addressed the Manufacturers' Club of Charlotte on behalf of his crusade to improve North Carolina's schools. "Everyone must recognize," he told the city's business leaders, "that the wealth of the State is dependent upon the wages which are paid to the earners, and these wages in turn are dependent upon the capacity of the wage earners. And this capacity is dependent in a large measure upon the quickness and skill which come from an acquaintance with books."

Today, nearly a century later, Governor Aycock's phrases may seem quaint. But the idea he expressed — the idea that education and economic growth are inextricably linked — was prophetic then and is thoroughly modern today.

That idea has prompted our work, and it undergirds this report.

And that idea, we hope, will become the rallying, inspiring idea of a crusade over the next few years to advance learning and teaching in North Carolina; to prepare our state's people for the demands of the twenty-first century.

Between now and the year 2000, North Carolina's population will grow by roughly one million. The state's economy, during those years, will be called upon to provide 900,000 new jobs — in the midst of swift, unsettling change.

These changes are already under way:

Technological change is sweeping across the United States and North Carolina, changing old industries, giving rise to new ones — and changing jobs in the process.

The enterprises which have been the keys to North Carolina's economic growth in this century — the agriculture, tobacco, textile, furniture and apparel industries — will remain highly important as sources of job opportunity. These traditional North Carolina industries, however, are already being transformed as they introduce new technologies to improve output-per-employee. Inevitably, new ways of doing things will put new demands on workers. The impact of technological change is being felt in all kinds of businesses. In banks, law firms and insurance offices, for example, word processors, electronic mail systems and other technological innovations are heralding the arrival of the "automated office." And in stores across the state, computerized cash registers and inventory-control systems make the work of today's retail clerks considerably different from that of yesterday's.

A "new industrial revolution," marked by the rise of new technology-based companies, will be the chief source of new manufacturing jobs in North Carolina over the next several years. According to the North Carolina Task Force on Science and Technology, "Employment in technology-based companies accounted for as much as 25 percent of the growth in manufacturing jobs in the state between 1975 and 1980." While our traditional industries remain important, the experts tell us that the greatest increase in job growth will come from rapidly advancing new industries such as micro-electronics and telecommunications.

The United States generally — and North Carolina in particular — will continue to feel the pressure of international competition.

Our state's textile and agricultural industries were severely buffeted by international competition in the Seventies and early Eighties. In the future, such competition will become even more intense — and no industry will be immune.

The increasing importance of the service sector will also affect our state economy.

Across the nation, the percentage of people employed in the service sector has grown over the past half-century, while it has declined in manufacturing, mining and agriculture. Today, roughly two-thirds of the nation's jobs are service jobs. Ninety percent of all new jobs in North Carolina between now and the year 2000, according to the Office of State Budget and Management, will be in the expanding service sector. We should remember, however, that this growing service sector embraces many different kinds of work — from low-skilled, minimum-wage jobs to highly-paid, knowledge-intensive jobs in banking, engineering and data-processing. As services come to account for more and more of North Carolina's jobs, we must be concerned not just about providing enough service jobs, but enough good ones. We must make it our goal to maximize the number of highly-skilled, highly-paid and rewarding service jobs.

All of these trends will be with us for years to come: swiftly advancing technology, international competition, an expanding service sector where the most desirable jobs are knowledge-intensive. Whatever else these changes mean, they certainly mean this: that in our future efforts to attract new industries and to create jobs, North Carolina cannot depend simply on a plentiful supply of strong backs and willing hands. If we are to cope successfully with economic change, our state must be able to offer potential employers a labor force that is not only strong and eager, but also well educated and highly adaptable.

Developing such a labor force will be the work of many institutions, and foremost among those institutions must be our state's elementary and secondary schools.

THE CRUCIAL LINK

Experience and common sense suggest that there is a powerful connection between education and economic development. It is no coincidence that North Carolina's Research Triangle Park, Massachusetts' "technology corridor" near Boston, and California's Silicon Valley have become symbols of rapid economic growth and

booming job opportunity in recent years. Each is close to major centers of education; each benefits from the resources of nearby universities — and each can draw upon a highly skilled and educated work force. North Carolina's Research Triangle Park is the result of an explicit, carefully-structured partnership between state government, the business community and higher education.

What experience and common sense suggest, research confirms. Several years ago, Dr. Edward F. Denison of the Brookings Institution studied the forces responsible for increases in productivity and economic growth. From 1929 to 1948, he found — the Great Depression notwithstanding — productivity in the United States increased by 27 percent. In the years between 1948 and 1973 productivity grew by an impressive 83 percent.

What was responsible for this impressive growth? Technology, Dr. Denison found — the application of new knowledge — was the force most responsible for gains in productivity. "The next largest source [of productivity growth]," he wrote, "was the increase in the amount of education that employed persons had received. Educational background decisively conditions both the types of work a person is able to perform and his proficiency in any particular occupation. It enhances skills of individuals within an occupation, and heightens a person's awareness of job opportunities and thereby the chances that he is employed where his marginal product is greatest." Moreover, Dr. Denison acknowledged, the advance of technology itself is dependent upon progress in education.

Every effort to spur productivity and economic growth, Dr. Denison concluded, must therefore include "attention to the quantity and quality of education of all types and at all levels . . . The education we provide tomorrow will affect productivity far into the future . . ."

A SOLID FOUNDATION TO BUILD UPON

North Carolina, fortunately, faces the changes we have described with a solid foundation to build upon. Our citizens and their public servants have a record of intense commitment to education.

North Carolina's Constitution, unlike the charters of many other states, commits the state to support the enterprise of public education: "... (K)nowledge being necessary to good government and the happiness of mankind," the state's Constitution commands, "schools, libraries and the means of education shall forever be encouraged." For many years, the chief source of support for public education in North Carolina has been the state, which last year provided roughly 65 percent of North Carolina's public school funding.

The state has enjoyed periodic bursts of creativity and energy on behalf of public education, spurred by public opinion and by a series of leaders who have raised public education to foremost priority.

Governor Aycock pushed education in North Carolina into the twentieth century, turning his governorship into a strong campaign to improve public education. He stumped the state, speaking to churches, business groups and town meetings on behalf of local taxation, consolidation of school districts, longer school terms, better facilities and higher pay for teachers. Within a decade, the educational statistics of the state were transformed.

Half a century later, Governor Terry Sanford took up the challenge of leadership on behalf of public education. His enlightened support for such concepts as the Research Triangle Park, the Governor's School for gifted students and the state's network of community colleges helped make the Sixties another period of forward movement in education — and of economic progress for the state.

RECENT PROGRESS

The last few years as well have brought an impressive surge of interest, innovation and improvement in North Carolina education — and a period of highly productive cooperation among the Governor, the General Assembly, the State Board of Education, the University of North Carolina Board of Governors, the State Board of Community Colleges, and other key groups on behalf of public education.

● *Free public kindergarten* is now available to every child in the state.

● A *Primary Reading Program*, in the first three grades, established in 1975, has put a teacher and an aide in every class of 26 children and has focused new resources on the most basic skill of all.

● The state has established *The North Carolina School of Science and Mathematics*, the nation's first state-supported residential school for students talented in these disciplines. This new institution, in addition to attracting outstanding students from every county in the state, offers seminars to help improve the skills of science and mathematics teachers from across the state.

● The State Board of Education has tightened the *core requirements for graduation from high school*, adding new emphasis to basic subjects like English, the sciences and mathematics. Students who exceed the core requirements are honored by designation as "*North Carolina Scholars*."

● The Board of Governors of the University of North Carolina has adopted a *new set of academic requirements* for its constituent institutions — more rigorous requirements in English, mathematics, science and history as prerequisites for admission to the state's public institutions of higher learning.

● Working together, the State Board of Education and the UNC Board of Governors have put in place a *Quality Assurance Program*, featuring pre-service screening tests and a two-step certification process, to help assure that teachers entering the profession are well educated and competent.

● New public-private partnerships have been created to promote excellence in education. For example, *The Business Committee for Math/Science Education* presents cash awards to teachers who demonstrate conspicuous excellence in their fields, and the Committee honors businesses, large and small, which have engaged in innovative efforts to strengthen local schools.

● The Governor and the State Board of Education have led efforts to establish vigorous school *dropout prevention programs*.

These and other steps to increase the rigor and richness of public education in North Carolina have yielded tangible results:

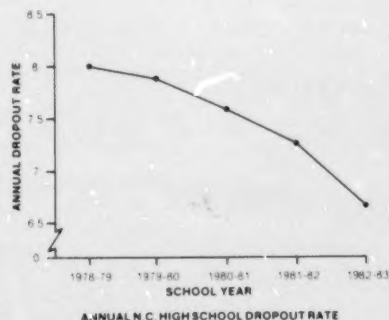
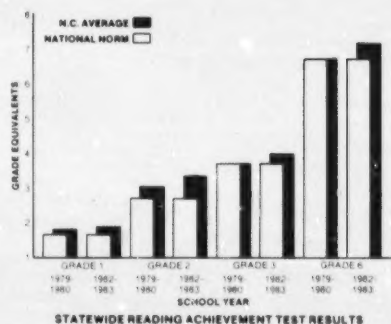
- In 1977, a statewide program of annual achievement testing for students in grades 3, 6, and 9 was started. Since that time, scores have increased continuously. For three consecutive years, beginning in 1981, North Carolina students' scores have exceeded the national average in all subject areas tested.

- The Primary Reading Program has brought dramatic gains in student achievement. Primary students in North Carolina were scoring below the national average in reading in 1975; today they are scoring well above the national average.

- When the Competency Testing Program was first initiated in 1978, 15 percent of the students failed the mathematics component and 10 percent failed the reading component on the first administration of the test. Since 1980, due to the remediation program, 98 percent of the students have satisfied the state's minimum competency standards for high school graduation.

- The state's high school dropout rate has declined from 32 percent in 1979 to 26.8 percent in 1983.

How strong is the link between North Carolina's educational efforts and its economic progress? Since 1960, more than \$18 billion has been invested in new and expanding industries in North Carolina; total employment has increased 1.2 million jobs. Personal income, moreover — measured in constant dollars — has increased by 140 percent. While the link can be quantified only roughly, we are convinced — and we believe most North Carolinians will agree — that our state's successful efforts, over the years, to develop a more skilled and literate population have played a key role in attracting new industry to the state, and in creating new jobs.



Chapter II

THE CHALLENGE

We have pursued our appraisal of education in North Carolina, its present condition and its future needs, with considerable appreciation for what our schools and our citizens have accomplished. And so our report, unlike many recent reports on the state of education, sounds notes of pride and hope rather than of crisis and failure. In the hearings we have held and the data we have examined, we have been especially impressed by the successes of North Carolina's teachers and administrators. In a state which ranks 41st in per capita income; whose citizenry are diverse and whose population growth rate over the past decade has been one of the nation's fastest, the performance of our teachers and other educators has been admirable.

Our pride in what has been accomplished so far, however, does not justify complacency about the future. We need to be concerned, not because North Carolina's schools are in crisis, but because social and economic changes already under way will further challenge our system of public education. Our schools must confront change head-on and excel in their response — or in the future they will fail.

THE AIMS OF EDUCATION

The first change that we consider necessary is subtle but important: a change of attitude and expectation about

the goals of public schooling. *It is time, in our judgment, to put learning first.* We must make it clear that the academic mission of our public schools is their paramount mission.

- We want our schools to give young people the skills they need to enter the job market, or to go on to higher education, without needing expensive and time-consuming remediation.

- We want our public schools to prepare young people to be responsible citizens: to be active, constructive, participating citizens in their communities and of the nation.

- We want our public schools to equip young people for what the Declaration of Independence calls "the pursuit of happiness." And so we hope that our schools impart not just knowledge, but also values; an appreciation of beauty; an understanding of the things in life that are good and fulfilling.

Over the past several decades, we have required our public schools to perform a complicated array of tasks. As the Task Force on Science and Technology put it, we have asked the public schools to "assure the physical and emotional health of all students; to desegregate a society whose housing and employment patterns make this extremely difficult and expensive; to provide adequate nutrition for many underprivileged pupils; to handle behavior problems which our legal system and parents could not remedy; to cope with an endless stream of regulations and their attendant paperwork; to provide adequate facilities and supervision to entertain whole communities, and to do all of this with a shrinking share of the state's resources."

All these have been necessary and worthwhile efforts. Indeed, it can be argued that unless we make them, many of our children will be handicapped in their efforts to learn. But it should come as no surprise that our schools have struggled and sometimes stumbled under the weight of these multiple tasks. And at times these efforts have eclipsed the central enterprises of our public schools: teaching and learning.

We are convinced, therefore, that any effort to improve education in North Carolina must begin with an affirmation that however important the other missions of the

public schools may be, the academic mission comes first. If our schools fail to teach and to teach well, it will matter little in the end that they succeed in other things.

BEYOND "THE BASICS"

A question follows naturally: What are the basics our schools should teach in order to equip students for life in the twenty-first century and to ensure economic health for our communities? In our judgment there is a core of academic skills — reading, writing and arithmetic — which are the keys to all other learning.

However, time and progress continually challenge our definitions of what is "basic." Today, when state or local assessment projects test students in "basic skills," they typically look for three things: the ability to comprehend literally a simple written passage, the ability to compute with whole numbers and the mastery of simple writing mechanics. "We expect our schools to impart much more than these basic skills," the National Task Force on Education for Economic Growth said; "we demand that they impart no less."

Even today, to possess only these minimum competencies qualifies a citizen for only the most basic, entry-level work. What about tomorrow? *It is clear to us that if North Carolina is to create enough good jobs for its citizens over the next twenty years — jobs that promise upward mobility — we must equip more and more of our graduates with academic skills that go beyond today's basics.*

New technology industries in services and manufacturing — industries which emphasize microelectronics, robotics, biotechnology, sophisticated data processing and telecommunications — will probably produce ten times more new jobs than all other industries over the next decade. Among the new jobs will be unskilled jobs and many others will involve the routine use of sophisticated devices. But many others will require high competence in reasoning, communicating, critical thinking, problem-solving and a high degree of creativity.

Our state's traditional industries, meanwhile — agriculture, tobacco, furniture, textile and apparel — are swiftly adding new technologies which change the nature of jobs. In some North Carolina apparel factories employees today do not operate just one sewing machine; they manage the automated operation of several machines simultaneously; stitching is controlled by computers, while highly automated mechanical arms pick single layers from stacks of fabric for stitching. And more change is coming; even in North Carolina's older industries, workers will be required to adapt as never before, to upgrade constantly their skills. For them to do otherwise is to become, in the chilling phrase of the day, "technologically irrelevant."

What new skills will be required? It is reasonable to assume that they will involve not just the ability to read and write, but also more sophisticated skills of inference and communication; not just the ability to count and do simple calculations, but also to handle more sophisticated mathematical challenges. It is reasonable to assume that in a time when change is rapid both within jobs and between jobs, workers must be highly adaptable to training and retraining; they must be well-versed in the skills of critical thinking and "learning to learn." It is reasonable to assume that more and more citizens will need a deeper grounding in the fundamentals of science, mathematics and the humanities.

Our public schools, of course, will not be called upon to teach all of these skills. But it is in our public schools that the job must begin. So our elementary and high schools face a double challenge: to teach today's fundamentals even more effectively — and to upgrade continuously their definitions of what is "fundamental" as a new information age sweeps over our state. It is vital that the public schools provide solid groundwork for entry into the world of work or for education at the post-secondary level. What is at stake is our children's standard of living — and more important, their quality of life.

UNFINISHED BUSINESS

This challenge before elementary and secondary education is no small challenge. It would be formidable even if our public schools were perfect — and they are not. The Commission's hearings and deliberations have heightened our pride in what our schools have achieved; they have also reminded us that North Carolina's schools have much unfinished business.

It is teachers and administrators across our state who, to their great credit, have reminded us most vividly and insistently of our unfinished business in public education.

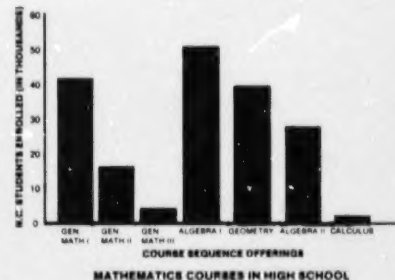
Consider these facts:

- More than 800,000 North Carolinians have less than an eighth-grade education, and more than 22,000 students drop out of North Carolina's high schools each year.

- In North Carolina's high schools, the percentage of enrollment in science and mathematics courses, has declined steadily over the past ten years — at just the time when society's demand for skills in these disciplines is increasing.

- Enrollment in more advanced science and mathematics courses offered after the tenth grade when minimum graduation requirements have been met are dropping even more steeply.

- North Carolina's institutions of higher learning — and many employers across the state — find it necessary to devote millions of dollars to remedial education for students and workers whose basic skills are deficient; resources that could be used more productively elsewhere.



INVESTING FOR PRODUCTIVITY IN EDUCATION

The challenges facing public education in North Carolina, compounded by demographic and economic change, suggest to us that vigorous efforts must be made to enhance the effectiveness of North Carolina's

public schools. Our call in Chapter One for a crusade to advance learning and teaching in our state is not mere rhetoric; it expresses our firm conviction about action which is imperative for our state's economic health.

It is tempting to call for massive, across-the-board spending on schools and schooling in North Carolina; our state, after all, ranks 34th in the nation in its public school expenditures per pupil. But we are keenly aware that our state's available resources are finite — and that North Carolina, therefore, must make wise, selective investments in educational improvements — focusing as precisely as possible and utilizing new dollars where they will yield the most improvement.

We have tried to concentrate our deliberations, therefore, on those improvements that seem to us most likely to enhance the productivity of our educational system. Simply to spend more, without spending on those things which encourage a more productive system, would do no good in our judgment — and indeed might do great harm: for it would devour critically needed capital in unproductive ways.

THE IMPORTANCE OF TEACHERS

We feel strongly that of all the factors which influence the effectiveness of our public schools, *teaching is the most important*. So let us concentrate first, as we discuss the specific challenges facing our public schools, on teachers and other educators: their value and importance; the esteem in which they are held; the condition of the profession — and the ways in which we can foster excellence in the future.

In the fifty years past, three circumstances ironically served to benefit the recruitment of public school teachers in North Carolina and across the country. The Great Depression so constricted job opportunities in the nation that many talented men and women entered teaching who might not otherwise have done so. Teaching was one of the few professions that educated minority citizens could enter. And many women went into

teaching because the range of opportunities open to them in other occupations was relatively narrow. Fortunately for our schools and our nation, many of these able people loved teaching and spent their careers in the public schools.

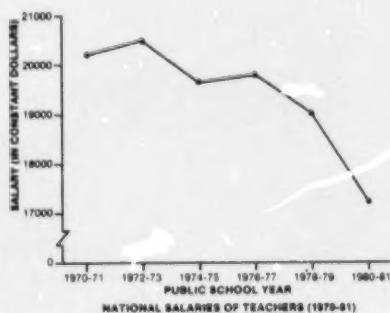
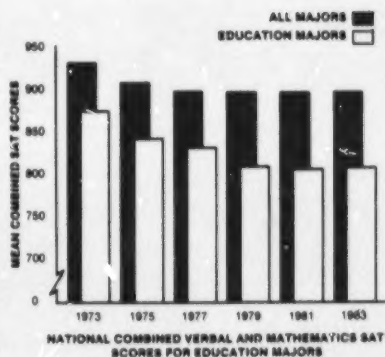
Today those circumstances have changed. A generation of able and devoted teachers who came into the profession during the Thirties and Forties have now retired. And minorities and women have broader opportunities than they enjoyed a generation ago — with the result that today the public schools must compete with business and industry to recruit able and talented graduates.

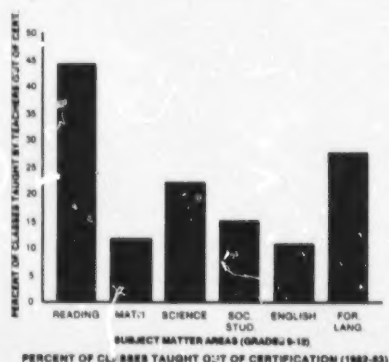
We are fortunate indeed that many able teachers still enter the profession and stay with it out of sheer devotion to their calling. But unmistakable signs are appearing that our public schools — in the nation and in North Carolina — are having trouble in their efforts to attract able new recruits into the teaching profession. In our state, for example, graduating high school students who indicate that teaching is their chosen career have combined scores of 749 on the Scholastic Aptitude Test; the average combined scores for all other graduates is 812. Studies of teacher attrition reveal that teachers leaving the profession for other jobs are those with the highest academic ability.

These facts are disturbing, to say the least. But given the existing system of incentives and rewards for teachers, they should surprise no one.

Low pay for teachers is the most often-cited villain. Teachers across the nation are paid salaries that are not competitive with other jobs requiring similar abilities and education. North Carolina ranks 38th among the states in teacher compensation, and because of the ravages of inflation, our teachers in recent years have actually been losing ground economically.

But low pay is only part of the problem. Our teachers also have limited opportunity to advance their careers; there is no clearly-defined system, in North Carolina and across the nation, by which teachers can advance in job level and prestige. Teachers are too often not treated as professionals and are distracted from their main duties with tasks little related to instruction.





The results are predictable: we are having difficulty attracting the most able students into teacher training. We are having difficulty recruiting into the profession even those students who do train to be teachers; only 50 percent of education graduates actually go on to teach. Finally, although many good teachers remain in the profession, low pay, poor working conditions and competition from other employers are causing real problems of attrition within the ranks of teachers.

In the everyday working of our public school system, these problems show up in disturbing ways. Personnel teaching out-of-field is one trouble: in 1982-83, 22 percent of all science classes, 12 percent of all mathematics classes and 44 percent of all reading classes in grades 9 through 12 in North Carolina were taught by uncertified or inappropriately certified teachers.

Of all the recommendations we will make in this report, we see those concerning the teaching profession in North Carolina as the most urgent. *We believe that North Carolina teachers should receive higher pay. But it is equally urgent that we restructure and improve our state's whole system for developing, supporting and rewarding excellence in teaching.* We must find effective ways to require and encourage excellence.

An experiment in structuring a new career ladder for teachers is under way in the Charlotte-Mecklenburg School System — led by teachers and administrators themselves. We see this innovative effort as a hopeful sign —and as an example of the kind of creative thinking that must take place if the profession in North Carolina is to attract and keep the best teachers for our young people.

THE CURRICULUM

North Carolina's public high schools, we are told, offer more than 300 separate courses. The design of these course offerings has involved many people over many years. It is not our purpose, as a temporary commission of only 50 members, to dictate course content.

We have come to four strong conclusions, however, about the public school curriculum in the course of our deliberations — and our recommendations reflect our concerns:

- We believe that what students are expected to learn should be clearly stated and that these expectations should be understood by students, teachers, parents and the broader community.

- We believe that curriculum design should be concerned with both content and outcomes. We believe, strongly and unanimously, that the state's testing programs should measure how well North Carolina's students master the requirements of a rigorous curriculum.

- Our hearings and our studies suggest to us that unless strong measures are taken to improve enrollments and course content in subjects that require high level learning skills, North Carolina's students will literally be found wanting in the future.

- Experience over the past seven years in the state's Primary Reading Program has taught an important lesson: that class size is an important key to success in teaching basic skills. A teacher cannot give the sustained individual attention which is needed to ensure success when a class is unacceptably large. We view class size as an important element in implementing an effective curriculum.

Since limited resources make it unlikely that we can soon mandate lower class sizes at every grade level, we have recommended a logical place to continue the improvements made in the past few years: in grades, 4, 5 and 6.

TECHNOLOGY AND EDUCATIONAL MATERIALS

A major thrust in computer education in North Carolina is essential. It is important, we believe, to proceed carefully — and to ask some hard questions: What are the ways in which computers can improve instruction, and how many can be well utilized within individual

schools? How will we educate teachers to make the best use of these computers? How will North Carolina define the term "computer literacy" in a practical, concise way? We know that computers will play an even larger role in our lives and jobs tomorrow, and we need to learn more about how to use them effectively in our schools. A danger is that massive public expenditures, taken without sufficient planning, could be counter-productive. We commend the committee of the General Assembly which has begun exploring these questions. We strongly support their deliberate approach.

In our recommendations concerning computers and other technology we have tried to emphasize careful planning and monitoring. We have sought to place computers within the general context of educational facilities and materials. Our schools need more computers; they also need more books and laboratory equipment. Our students need to be familiar with computers; they also need to be well-grounded in reading, writing, mathematics and other core disciplines. We believe all these needs must be considered not in isolation but in relationship to one another.

EDUCATION FOR ALL

It is selective investments, in our judgment — investments of imagination and creativity as well as funds — that will bring improvements in these and other areas. In the recommendations that follow, therefore, we mention many items of unfinished business for public education — but we do not mention every conceivable need or problem. We have elected, instead, to focus on those efforts which seem to us most urgent — and those which, if dealt with decisively, promise to yield the greatest returns in future years.

The ultimate in selective investment, of course, would be to concentrate North Carolina's educational resources upon the most gifted and promising students: to aim at creating a small but superbly educated technological elite, but we reject such a limited strategy for two reasons. It would be unfair — and it would fail. North Carolina's schools, like the nation's, exist in the

service of a democratic principle: to be broadly inclusive; to extend to all people the benefits of public education. As one scholar has aptly put it, "Our public schools are asked to fill all different kinds of vessels: pints, quarts and gallons. But we must fill them all with cream."

The very breadth of the economic challenge we face, moreover, makes it essential that we strengthen education for all students and not just for a gifted few — because the technological demands of tomorrow's workplace and the swift pace of economic change will touch everyone. The National Task Force on Education for Economic Growth put the issue this way: "We must raise our expectations and our standards. We must improve the quality of instruction for all students — not just for an elite. We must raise both the floor and the ceiling of achievement in America, improving educational attainment for the most able students and for other students as well . . . The challenge to us in the United States, as we seek to educate for economic growth, will be to generate in our country a high average level of capability: a level high enough to keep us capable of competing intellectually — and thus capable of competing economically — in the future."

Chapter III

EDUCATION FOR ECONOMIC GROWTH: AN ACTION PLAN FOR NORTH CAROLINA

The members of the Commission on Education for Economic Growth are convinced that North Carolina and its people are capable of shaping our systems of public education to cope with change. In the course of our deliberations we have developed a set of recommendations to help accomplish that goal.*

Our recommendations call for efforts by many individuals and institutions — from parents to the General Assembly to local boards of education. They call for higher expectations and a new ethic of excellence in public education. Putting these recommendations into effect will require strenuous effort and real change. But we are convinced that achieving the reforms we recommend will ensure that new generations of North Carolinians will reach the higher general level of education on which sustained economic growth depends.

*Note: The Commission's recommendations are expressed in this Chapter in brief form. For more detail and for additional action recommendations by the Commission, see Appendix A.

Create broader, more effective partnerships for improving education in North Carolina — by encouraging businesses, community groups, parents, and other institutions to become more deeply involved in the life of the public schools.

- Every local school board should *establish, as soon as possible, a local Task Force on Education for Economic Growth* — to create local understanding of the links between education and continuing prosperity; to plan strategies for improving education; and, to foster new alliances between business, labor, government, parents and educators on behalf of education for economic growth. Each Task Force should be broadly representative — and should develop recommendations for putting into effect at the local level the recommendations of the National Task Force and the state Commission on Education for Economic Growth.

- Local school boards should *form an advisory council composed of parents, teachers and non-parent taxpayers for each local school or high school and its feeder system*. Students should serve on high school advisory councils. Each local school should be encouraged to have a parent/teacher organization.

- Business and civic leaders across the state should *create local Foundations for Public Education* — private charitable trusts through which tax-deductible contributions may be used to help the public schools develop new programs and acquire needed equipment.

- The Business Committee for Math/Science Education should *reconstitute itself as the North Carolina Business/Education Committee and expand its valuable work*. In addition to its present roles of recognizing excellent teachers and businesses and helping to foster new business-education partnerships across the state, the Committee should serve as a coordinator of business—education partnerships and provide technical assistance to local efforts.

Improve and enrich the curriculum of North Carolina's schools — by clearly stating what young people are expected to learn, by encouraging higher student performance and improving enrollments in critical subjects such as science, mathematics and foreign languages.

- To ensure that every student has the opportunity to *learn basic academic and vocational skills and to develop "learning to learn" skills*, the State Board of Education should continue to refine the State Basic Education Program. In particular, the Board should specify the competencies that young people must master as they move through grade levels K-3, 4-6, 7-8 and as they complete required high school courses.

- The State Board of Education, in selecting competencies and courses as part of the State Basic Education Program, should *emphasize the importance of science and mathematics instruction at all grade levels*.

- The State Board of Education, working with the Annual and Competency Testing Commissions, should *plan and develop appropriate testing procedures and measurement instruments to be used in implementing a competency-based curriculum*. Specifically, procedures and instruments for measuring competencies in high school science and mathematics courses should be developed and field tested during the 1984-85 school year.

- In developing the State Basic Education Program, the State Board of Education should undertake a thorough *review of vocational education* and should develop a plan to maintain the relevance of vocational education in a changing economy.

- Local school boards should *develop promotion policies for grades 3, 6 and 9 that are primarily based on the mastery of specified competencies*. The state should provide strong and effective remedial programs, including free summer school, for students who do not demonstrate sufficient mastery to justify promotion.

- The State Board of Education and local school boards across the state, in cooperation with teachers, educators, parents and citizens, should develop a plan to *incorporate the teaching of positive values* in our public schools. The Board should develop materials and methods for teaching more effectively such desirable

**ACTION
RECOMMENDATION**

3

values as responsibility, good citizenship, honesty, courage, compassion and respect for other persons and other cultures. In addition, the Board should develop materials and methods for teaching the values of the free enterprise system.

Express a higher regard for teachers and for teaching in North Carolina — by improving all the conditions of the profession in our state: teacher recruitment, training, certification, pay, career incentives and the teaching environment.

- The General Assembly should *raise teacher pay*, establishing a starting salary for beginning teachers of \$15,710 in 1984-85 and a salary range for experienced teachers of \$17,220 to \$26,180. By 1987-88, salaries for beginning teachers should be adjusted upward to be competitive with entry-level salaries in other fields, and the salary range for experienced teachers should be approximately \$18,000 to \$34,000.

- The State Board of Education, working with the Education Personnel Administration Commission shall develop immediately a *career growth program* for teachers, designed to give teachers increasing responsibility, recognition and pay as they gain experience and professional ability. The program should be ready for widespread testing by 1985-86 and for launching throughout the state in 1986-87, if possible, and no later than 1987-88.

- The General Assembly, the State Board of Education and the University of North Carolina Board of Governors should establish a *Center for the Advancement of Teaching* — an institute to provide outstanding teachers with an opportunity to study the sciences and humanities and consider and recommend better ways of teaching young people.

- The General Assembly and the State Board of Education should launch new efforts to *attract and recruit outstanding scholars to teaching*. These efforts should include both a scholarship fund for highly qualified high school graduates and college students interested in teaching and options for eleven or twelve-month employment, especially in major subject areas where qualified teachers are in short supply.

- The State Board of Education with the University of North Carolina Board of Governors should *strengthen and extend the quality assurance program for teachers entering the profession*. The program for entering teachers should be made more rigorous and demanding; tenure for any teacher should be granted only after three favorable performance evaluations. A quality assurance program should also be established for experienced teachers, featuring annual evaluations by supervisors and peers, opportunities to correct deficiencies, and dismissal of teachers who, after ample opportunities, cannot or will not improve.

- The General Assembly should encourage the *professional development* of educational personnel by providing to the State Board of Education each year \$100 per position for allocation to local school boards.

- The General Assembly should provide funds for a *Network of Mathematics/Science Teacher Education Centers* within the University of North Carolina System.

Improve the learning environment in North Carolina's Public Schools — by providing more adequate facilities and equipment to teachers and students, increasing the amount of attention an individual student receives, eliminating distractions, and encouraging the carefully-planned use of new technology in education.

- The General Assembly should provide funds to *improve instructional materials and equipment* in North Carolina's public schools. These funds should be sufficient to increase the secondary school textbook allocation to \$15 per student — and to upgrade significantly the instructional equipment in the schools: science and mathematics laboratory equipment, vocational education equipment and other teaching aids.

- The General Assembly, the State Board of Education and local school boards should take steps over the next several years to *ensure that students receive more individualized attention*. These steps should include reducing class size, relieving teachers of non-instructional duties and providing teachers with clerical assistance.

ACTION RECOMMENDATION 4

- Local school boards should work with parents and teachers to *establish clear policies on homework.*

- The State Board of Education should *revise and submit to the Governor and General Assembly a plan for meeting the state's school facility needs.*

- The General Assembly should *establish a North Carolina Microcomputer Education Fund* to encourage effective computer education in the schools; to support training for teachers in computer education; to support the purchase of computers, software and other computer-related equipment; and provide a clearinghouse for ideas, planning and model projects featuring the innovative use of computers in education.

- To ensure that classroom time is used effectively for teaching and learning, every local school board in the state, in cooperation with teachers and other educators, should *develop firm and explicit policies for eliminating classroom interruptions and for handling discipline problems.*

- The General Assembly should establish an *Office for School Discipline* to serve as a resource to local schools in discipline related matters and to help local communities apply the approach to school discipline developed by the North Carolina Interagency School Discipline Committee.

ACTION RECOMMENDATION 5

Improve the leadership and management of North Carolina's Public Schools — by enhancing the training, pay and career status of school administrators, by developing their expertise as instructional leaders and by improving management systems.

- The State Board of Education should *establish a quality assurance program* for aspiring and experienced school administrators, and should expand its Assessment Center for Prospective Principals program to ensure the fitness of prospective assistant principals and other administrators.

- In connection with its efforts to develop a career growth program for teachers, the State Board should *establish a career growth program for school administrators* — a program which provides clear opportunities for advancement, recognition and increased pay to administrators who demonstrate high effectiveness as instructional leaders and school managers.

- The General Assembly should authorize and provide funds for a *Principals' Management Program*, to be affiliated with the University of North Carolina. The Program would provide short-term advanced training for principals in school leadership and management skills and would serve at least 300 administrators each year.

- The General Assembly should *increase the base pay of school administrators*.

- The General Assembly should *provide funds to implement a modern business management system* in the Department of Education to help manage information and fiscal resources and utilize personnel more effectively.

Strengthen existing programs — and create new ones — to serve special groups and to fulfill special needs in North Carolina's Public Schools.

- The General Assembly and the State Board of Education should *establish a network of Centers for Excellence* around the state — specially-designated model public schools. The state's Centers for Excellence would serve as centers for applied research in improving public schooling and for cooperative educational efforts involving higher education, the business community and other groups. Centers for Excellence, in their role as model schools, would be eligible for special funding and assistance to support their innovative efforts.

- The General Assembly and the State Board should *continue — and strengthen — the state's highly successful programs to identify and serve gifted students*. The North Carolina School of Science and Mathematics should be encouraged to increase its enrollment and to

**ACTION
RECOMMENDATION 6**

strengthen its outreach programs for students and teachers across the state. The Governor's Schools for gifted students should be expanded to include 400 more students in a special summer institute emphasizing science and mathematics.

- The State Board of Education — and local school boards across the state — should intensify their efforts to *reduce the school dropout rate* and to help potential and actual dropouts. Dropout prevention programs should be extended to the middle grades and new programs for reducing dropouts — with specific goals and timetables — should be launched.

- The State Board of Education — and local boards across the state — should *intensify their efforts to serve students who are now underserved* or whose job and education prospects are clouded by economic status or other handicaps. Women and minorities should be given special encouragement to enroll in academic fields such as mathematics and science, and handicapped students should be given special help to overcome their difficulties in preparing for economically productive lives.

- The State Board of Education should *expand and promote school-to-work transition and guidance programs* to prepare high school seniors to make the transition from school-to-jobs, to skills-training in the community college system or to the four-year college level.

- The General Assembly and the State Board of Education should address the unique needs of rural education by establishing an *Office of Rural Education*.

Chapter IV

TOWARD THE FUTURE

We have concerned ourselves, in our report and recommendations, with education for economic growth: education as a way of developing marketable skills, fostering innovation, and creating jobs in North Carolina.

We know that education has other, deeper purposes: to encourage citizenship, to instill worthwhile values, to enrich every aspect of life, not just the economic. If economic well-being is not a sufficient reason to improve our schools, however, we submit that it is a necessary and worthwhile reason.

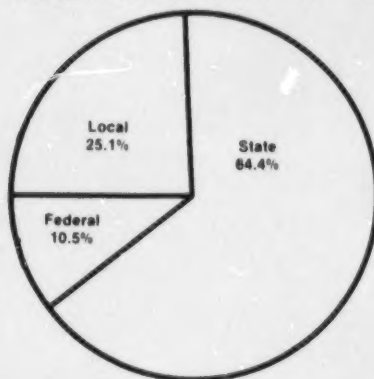
We have called for nothing less than a crusade in North Carolina to improve our public schools. What will be required for that crusade to succeed?

Time, first of all. Major transformations — of institutions, of habits, of professions — are not accomplished overnight. Bringing about the changes that we have called for — especially the changes in the ways we recruit and reward teachers — will be the work of several years. But we are convinced that most of our recommendations can be put into effect within three years — and that major rewards from the effort will become visible almost immediately.

MARSHALLING RESOURCES

Money, next. We have been concerned at every point about costs, although our mandate from our chairman has been to focus first on the needs of education — and

Public Schools Expenditures by Source of Funds



only then on ways and means. But we are acutely aware that North Carolina's fiscal resources are finite and that existing resources must be spread among various competing needs. We are aware also that capital is scarce; that careless public spending can be the enemy of economic growth. Having said that, let us state three principles that we embrace — and that we believe should guide North Carolina's citizens, its school boards, and the General Assembly as they seek to marshal resources for educational reform:

- We believe, with the National Task Force on Education for Economic Growth, that "better use of existing resources must be the first priority in improving the public schools;" that "how states and communities spend their education funds is as important as how much they have to spend." And so we believe that effective, visible efforts to improve the deployment of existing resources must be made.

- We believe strongly that when the current economic recovery yields new tax revenues for our state and local treasuries, *educational improvements — especially a new compensation structure for North Carolina's teachers — should have first claim on new revenues.*

- We believe, with the National Commission on Excellence in Education, that "Excellence costs. But in the long run, mediocrity costs far more." The people of North Carolina and their leaders must be aware that the next twenty years will require increased investments in educational improvement.

Can our state afford increased investments? We believe it can. We believe, moreover, that North Carolina must make the investments that are required to prepare our schools and our people for the economic demands of the Nineties — and for the twenty-first century. Not to do so, in our judgment, would be the ultimate in penny wisdom and pound foolishness; it would unfairly hobble our state's future economic growth.

MEASURABLE RESULTS

To make the investments that are necessary to effect our recommendations will produce prompt and measurable results:

- Student performance on statewide and national tests will improve.

- Dropout rates will decline.
- Courses in remedial reading and mathematics will become less prevalent as they will be less necessary.
- Enrollments in advanced mathematics, science and language courses will increase.
- Students will receive more individualized instruction and attention.
- Teachers' skills — and their morale — will improve.
- The retention rate of good teachers will improve.
- The number of ineffective teachers will decline.
- *The number of new jobs created in North Carolina — jobs that offer chances for upward mobility — will steadily increase.*

MORE THAN MONEY

In the long run, of course, far more than money will be required. Even larger expenditures of imagination, creativity and volunteer energy will be called for. And the best way to summon these is expressed in what we call for in our first major recommendation: partnerships between parents, teachers and students; between businesses and the schools; between foundations, colleges and universities and the schools; between individual citizens and the schools.

What kinds of partnerships do we have in mind? To mention a few is to risk ignoring many; hundreds of effective partnerships are working today in North Carolina. To suggest how they work, however, let us mention the partnerships honored last October by the Business Committee for Math/Science Education:

- In Charlotte, Southern Bell sponsors internships, student tours, exhibits and school visits to help students hone their problem-solving skills and to heighten their interest in mathematics and science.
- Rocky Mount businesses and industries worked cooperatively with the Board of Education and the Chapter of Parents for the Advancement of Gifted Children to sponsor "Computer Expo 83" which set the stage for increasing utilization of computers in the classroom and at home.
- The Gaston County Chamber of Commerce was instrumental in creating, planning and conducting the 1983 Science and Technology Exhibition.

- In Kings Mountain, Foote Mineral Company sponsors the Kings Mountain Junior High School Science Fair.

- Weyerhaeuser Company's contributions to mathematics/science education offer Craven County students a link with the world of work by providing release time for employees to tutor individual students and to lecture high school classes.

- Robersonville Products Company, a division of Hallmark Cards, funded a microcomputer lab at Roanoke High School in an attempt to offer instructional support for Martin County mathematics students.

- R. J. Reynolds Industries has funded computer science programs and sponsored the "Homework Hotline" through which teachers helped students in the Winston-Salem area with homework problems.

- In North Wilkesboro, Lowe's Companies, Inc., through its charitable foundation, sponsors Excellence in Teaching Awards and offers a statewide scholarship program to help teachers upgrade their skills.

- CIBA-GEIGY Corporation works hand-in-hand with Greensboro's public schools to provide enrichment programs for students, supplying financial support for the Science/Math Olympics, the High School Science Awards Programs, and the Excellence Fund.

Such partnerships offer great hope for building public support and understanding of our schools — and for linking our schools more closely to the world of work. We hope they will grow in number and importance across the state.

Garza Baldwin, a businessman from Pisgah, made this comment at our hearing in Asheville: "A well trained, intelligent, highly motivated work force is the most valuable resource any business can have." We agree, and we are convinced that if North Carolinians rally now in the cause of education for economic growth, our schools — and our people — will be equal to the demands of economic change, technological innovation and international competition. We are convinced that by successfully mastering these changes, North Carolinians can create for themselves not only a more prosperous economy, but more satisfying and fulfilling lives.

APPENDIX A

RECOMMENDATIONS:

AMPLIFICATIONS AND ADDITIONS

Appendix A

ACTION RECOMMENDATION 1

Create broader, more effective partnerships for improving education in North Carolina — by encouraging businesses, community groups, and other institutions to become more deeply involved in the life of the public schools.

- Local plans for excellence should be developed by local task forces on education for economic growth. The task forces should be formed by local school boards and be composed of business and community leaders, government officials and educators, for the purpose of establishing a dialogue between business, government, community and church groups and education, identifying joint steps that could be taken to improve learning opportunities for students, planning improved school-to-work transition programs, and encouraging business leaders and their employees to participate actively in programs to improve K-12 education.

- Local school boards should encourage civic leaders to establish Foundations for Public Education. The purposes of these foundations should be to promote local support for efforts to improve public education, coordinate efforts to raise non-tax funds for the support of public education, fund local improvement efforts, and provide citizens with information pertaining to the needs for improving public K-12 education and to the effectiveness of programs supported by the foundation.

- Local schools boards should form an advisory council composed of parents, teachers and non-parent taxpayers for each local school or high school and its feeder system. Students should serve on high school advisory councils. Each local school should be encouraged to have a parent/teacher organization.

- Local school boards should establish other partnership efforts designed to improve the quality of education with universities and colleges, community colleges and technical institutes, and private schools.

- The Business Committee for Math/Science Education should become the Business/Education Committee and expand its current scope of activities to include the establishment and coordination of regional business/government/community groups/education councils for the purposes of coordinating partnership efforts, serving a clearinghouse function, and providing technical assistance to local task forces.

- The Business/Education Committee should encourage each large business to appoint a regional or statewide business/education liaison person to serve as the contact person for business/education partnership efforts.

ACTION RECOMMENDATION 2

Improve and enrich the curriculum of North Carolina's schools — by clearly stating what young people are expected to learn, by encouraging higher student performance and improving enrollments in critical subjects such as science, mathematics and foreign languages.

Develop and Implement a Competency-based School Curriculum.

- To ensure that every student has the opportunity to learn basic academic and vocational skills and to develop "learning-to-learn" skills, the State Board of Education should continue to refine the State Basic Education Program. In particular, the Board should specify the competencies that young people must master as they move through grade levels K-3, 4-6, 7-8 and as they complete required high school courses.

- The State Board of Education, in selecting competencies and courses as part of the State Basic Education Program, should emphasize the importance of science and mathematics instruction at all grade levels.

- In developing the State Basic Education Program, the State Board of Education should undertake a thorough review of vocational education.

- Local school boards should develop instructional goals and objectives which amplify state-defined competencies.

- Local school boards should base promotion from each grade or selected grade levels, e.g., grades 3, 6 and 9, primarily on successful performance on specified competencies.

- The State Board of Education, working with the Annual and Competency Testing Commissions, should plan and develop appropriate testing procedures and measurement instruments to be used in implementing a competency-based curriculum. Specifically, procedures and instruments for measuring competencies in high school science and mathematics courses should be developed and field tested during the 1984-85 school year. Next, procedures and items for measuring competencies in other courses required for high school graduation should be developed and field tested.

- The General Assembly and the State Board of Education should provide free summer school remediation programs for students who do not successfully demonstrate the competencies required for promotion from grades 3, 6 and 9.

Incorporate into the Curriculum the Development of Positive Values.

- The State Board of Education should develop materials and methods for incorporating essential values which have emerged from the American experience into the curriculum.

- Local school boards should incorporate the teaching of responsibility, citizenship, self-respect and respect for other individuals and cultures, honesty, courage, compassion and other essential values as part of the local educational program.

ACTION RECOMMENDATION 3

Express a higher regard for teachers and for teaching in North Carolina — by improving all the conditions of the profession in our state: teacher recruitment, training, certification, pay, career incentives and the teaching environment.

Develop and Implement Quality Assurance Programs for Teachers.

- The State Board of Education, with the University of North Carolina Board of Governors, should complete the implementation of the quality assurance program for prospective and beginning teachers.

- The State Board of Education should evaluate the effectiveness of teacher preparation programs and discontinue ineffective programs.

- The State Board of Education should design procedures to require three positive annual evaluations prior to the granting of career status.

- The State Board of Education should develop and implement a quality assurance program for experienced teachers. The program should include the following features:

- (1) annual, multiple-point evaluations by mentor teachers and administrators
- (2) emphasis on positive reinforcement and constructive criticism
- (3) individualized plan to improve weaknesses and deficiencies, such plans to be developed by teacher and evaluators
- (4) progress on improvements as part of continuing evaluation
- (5) dismissal of individuals who do not improve or meet basic teaching competencies.

Provide Teachers with Increased Opportunities to Develop New Skills or Correct Deficiencies.

- The General Assembly should increase to \$100 per position funds allocated for the professional development of educational personnel. Funds should be directed to local school boards through the State Board of Education.

- The General Assembly, the State Board of Education and the University of North Carolina Board of Governors should increase the quality and availability of mathematics and science teachers by establishing a Network of Mathematics/Science Teacher Education Centers within the University of North Carolina System.

- The General Assembly, the State Board of Education and the University of North Carolina Board of Governors should provide outstanding teachers with the opportunity to study advanced topics and issues in the sciences and humanities by establishing a Center for the Advancement of Teaching.

- The State Board of Education should provide training opportunities for teachers of academically talented students, especially in processes to identify such students.

- The State Board of Education, with the University of North Carolina Board of Governors, should provide training for teachers in the teaching of such areas as responsibility, citizenship, self-respect and respect for other individuals and cultures, honesty, courage, compassion and other essential values.

Improve the Teaching Environment

- Local school boards should develop policies which ensure that teachers become involved in decision-making processes within the school districts and buildings.
- Local school boards should provide job sharing opportunities for certified teachers.
- The State Board of Education should modify certification requirements to attract individuals to teach in high demand areas such as advanced science and mathematics and computer science.
- The State Board of Education and local school boards should review and revise policies on the use of substitute teachers.
- The General Assembly should provide funds for local school boards to hire full-time substitute teachers.
- The State Board of Education should design incentive programs, such as options to "cash-in" unused sick leave, to encourage higher teacher attendance.
- The State Board of Education should review the "Ten Plus Plan" with particular attention to the annual leave policy and the number of useful teacher workdays scheduled during the current school year.
- The State Board of Education should expand the extended employment provision to allow for the employment of 700 science and mathematics teachers in 1984-85 for eleven or twelve months.

Increase the Base Pay of Teachers

- The General Assembly should increase the base pay of teachers over the next four years approximately to the following schedule:

Year	Beginning Teachers	Experienced Teachers
1984	\$15,710	\$17,220 - \$26,180
1985	\$15,710 + CA *	\$18,000 - \$28,750
1986	\$15,710 + CA *	\$18,000 + CA * - \$31,700
1987	\$15,710 + CA *	\$18,000 + CA * - \$34,000

*CA — Adjustment required to keep entry level salaries competitive with other professions requiring comparable levels of training.

- The State Board of Education, with the assistance of the Education Personnel Administration Commission, should develop salary schedules based on experience, training and performance.
- The State Board of Education should develop new position descriptions for teachers which include the expectations stated in the quality assurance programs.

Develop and Implement Career Growth Programs for Teachers.

- The State Board of Education, working with the Education Personnel Administration Commission, should develop and implement a career growth program for teachers which provides opportunities for individuals to continue to teach while assuming additional responsibilities such as serving as mentors to other teachers, participating in planning and conducting staff development programs, participating in the development of curriculum plans and materials, conducting practical instructional research, and participating in developing model programs.

- The State Board of Education, working cooperatively with local boards of education, should determine the number of career growth positions needed by each local district.

- The State Board of Education should specify that only highly productive and effective teachers who have well-documented, excellent performance records be assigned to career growth positions.

- The State Board of Education should work with the Education Personnel Administration Commission to develop a separate salary schedule for teachers who participate in the career growth program that is in addition to the base pay schedule.

- The State Board of Education should pilot test the career growth program during the 1985-86 and 1986-87 school years in as many as 24 school systems.

- The State Board of Education should implement the program statewide during the 1987-88 school year, or sooner if possible.

Attract and Recruit Outstanding Young People to the Teaching Profession.

- The State Board of Education should develop a plan by October 1984 to attract top high school students and college freshmen and sophomores into teaching.

- The General Assembly should create a scholarship fund available to top high school students interested in a teaching career.

ACTION RECOMMENDATION 4

Improve the learning environment in North Carolina's public schools — by providing more adequate facilities and equipment to teachers and students, increasing the amount of attention an individual student receives, eliminating distractions, and encouraging the carefully-planned use of new technology in education.

Reduce the Average Class Size.

- The General Assembly should reduce class size by providing one teacher for each 26 students across the 4-6 grade span of each local school system.

- The State Board of Education should plan future additional reductions to reach a goal of one classroom teacher for each 26 students enrolled K-12 statewide.

Provide an Environment that Encourages Learning and High Achievement.

- The General Assembly should provide clerical aides at a ratio of one aide per fifteen teachers, with a minimum allocation of two clerical aides per school.
- The State Board of Education should implement the Students Information Management System designed to facilitate the collection, maintenance, organization and reporting of individual student data, relieving teachers of the current manual systems.
- Local school boards should develop and implement explicit local policies to eliminate classroom interruptions.
- Local school boards should work with parents and teachers to establish clear policies on homework.
- Local school boards should review existing school scheduling and consider reorganizing the school day and/or week to increase instructional time in needed areas; e.g. science labs.
- The General Assembly should upgrade laboratory and shop equipment by purchasing equipment for science and mathematics laboratories and by updating vocational education equipment at the elementary and secondary levels.
- The General Assembly should increase the secondary textbook allocation to \$15 per student.
- The General Assembly should provide the one-time funds necessary to implement the current elementary textbook adoption schedule.
- The General Assembly and the State Board of Education should establish a North Carolina Microcomputer Education Fund to support the acquisition of computer hardware, software and training by local school systems; to fund the development of effective course curricula and teacher training in microcomputers; to establish and support a computer software clearinghouse for public schools in North Carolina; and to support model projects in innovative uses of microcomputers in education.
- Within two years, the General Assembly should provide funds to establish computer laboratories in all schools in North Carolina. Priority in the first year should be given to secondary schools. These laboratories should be of sufficient size and number to assure that every student will take at least one computer course designed for computer literacy some time during the elementary or secondary program. These laboratories also should be of sufficient size and number for classroom use in the teaching of content area subjects. It is recommended that one work station be provided for each 50 students. The State Board of Education should provide associated courseware, maintenance and staff development.
- The General Assembly and the State Board of Education should complete the Community Schools Program and include activities such as Saturday Free Schools and optional evening or extended day learning periods.

- The State Board of Education should update the plan for meeting the state's elementary/secondary school facility needs. The plan should be submitted to the Governor and the General Assembly by December, 1984. The plan should serve as the basis for state funding of the capital outlay needs of public elementary and secondary schools.

Control Discipline Problems through the Involvement of the Entire Community.

- The General Assembly should establish an Office for School Discipline to serve as a resource to local schools in discipline related matters and to help local communities apply the approach to school discipline developed by the North Carolina Inter-agency School Discipline Committee.

- Local school boards should form an interagency school discipline task force in each school district including school personnel, community groups, parents, students, law enforcement personnel and others to plan and implement community action programs. These discipline task forces should determine explicit disciplinary procedures.

- The State Board of Education should assist local school boards in implementing in-school programs designed to serve habitually disruptive students.

ACTION RECOMMENDATION 5

Improve the leadership and management of North Carolina's public schools — by enhancing the training, pay and career status of school administrators, by developing their expertise as instructional leaders and by improving management systems.

Develop and Implement a Quality Assurance Program for Administrators.

- The State Board of Education should develop and implement rigorous and demanding quality assurance programs for all administrators.

- The General Assembly and the State Board of Education should expand the Assessment Center for Prospective Principals program to include the assessment of prospective assistant principals and other administrators. Special emphasis should be placed on attracting women and minority candidates.

Provide Principals and Superintendents with Opportunities to Develop Effective Management Skills.

- The State Board of Education should develop plans for providing superintendents, principals, assistant principals and other administrators with opportunities to acquire new skills and to correct deficiencies identified through the quality assurance programs for administrators.

- The State Board of Education should evaluate the effectiveness of university-based administrator training programs. Ineffective programs should be discontinued.

- The General Assembly and the State Board of Education should establish a Principals' Management Program designed to be a short-term, intense, in-residence management training program for principals for improving leadership and management skills. The program should serve at least 300 principals per year.

- The State Board of Education and local boards of education should encourage businesses which conduct in-house management training programs to provide opportunities for superintendents to participate. Local boards of education should encourage their superintendents to attend.

- The State Board of Education should provide superintendents with additional opportunities to improve their management skills within institutions of higher education and elsewhere.

Develop and Implement a Career Growth Program and Increase Base Pay for Administrators.

- The General Assembly should raise the pay of administrators.
- The State Board of Education, working with the Education Personnel Administration Commission, should develop a new salary schedule for administrators.
- The State Board of Education should develop and implement career growth programs for administrators. Local school boards should provide opportunities for advancement to individuals who demonstrate their effectiveness as strong instructional leaders and efficient managers.
- The General Assembly should provide state funds to pay the salaries of school finance officers. The State Board of Education, working with the Education Personnel Administration Commission, should develop a salary schedule for finance officers.

Improve Information Management Systems

- The General Assembly should provide funds to implement a modern business management system in the Department of Education to help manage information and fiscal resources and to utilize personnel more effectively.

ACTION RECOMMENDATION 6

Strengthen existing programs — and create new ones — to serve special groups and to fulfill special needs in North Carolina's public schools.

- The State Board of Education should select elementary and secondary schools in various regions of the state to be designated as Centers for Excellence for the purposes of engaging in applied research studies to improve public education; developing and implementing programs which address specific educational needs; serving as models for other schools in the state; and, providing focal points for the involvement of higher education, government and the private sector in finding solutions to school problems.

- Local school boards should develop policies and programs to enable gifted and talented students to enroll in advanced classes at nearby colleges and universities and expand year-round options available to the academically gifted.

- The North Carolina School of Science and Mathematics should continue to operate independently and should be encouraged to increase its enrollment and strengthen its outreach programs for students and teachers across the state.

- The General Assembly and the State Board of Education should expand summer options for gifted and talented students by increasing the enrollment in the Governor's Schools program by including a special summer institute for 400 additional students which emphasizes science and mathematics.

- Local school boards should encourage young people to participate in advanced mathematics, science and language courses.

- The State Board of Education and local school boards should continue to operate programs for the school population classified as "handicapped."

- The State Board of Education should develop and implement programs to assist handicapped students in developing the skills necessary for employment or further education.

- Each local school board should provide alternative education opportunities for students whose needs cannot be met in the regular program.

- The State Board of Education and local school boards should extend dropout prevention efforts into middle schools through special programs for early identification and support of high-risk students, with clearly defined program alternatives.

- Local school boards should promote Dropout Prevention/Job Placement Centers while integrating their operations with school-to-work transition and other employment-related secondary school programs, with local Private Industry Councils, chambers of commerce and industrial associations, and with local community colleges and technical institutes.

- Local school boards should inform dropouts about alternative education paths and resources available in the community.

- Local school boards should develop effective information exchanges between secondary schools and local community colleges and technical institutes for the recovery of students leaving public secondary schools before graduation.

- Local school boards should make full use of community colleges through support of dual enrollment, the General Educational Development and Adult Basic Education Programs.

- Local school boards should develop joint funding and strategies for school-to-work transition between the State Job Training Coordination Council and the educational system. Consider using funds providing for summer employment programs by the Job Training Partnership Act at least partially for basic remediation and transition guidance for youngsters who will go directly into the world of work.

- The State Board of Education should establish pilot projects which create formal ties among the Extended Day, Dropout Prevention, and School-to-Work Transition Programs, local Private Industry Councils, and employment and training system professionals for the purpose of coordinating state resources in the school systems and federal resources under the Job Training Partnership Act, in order to maximize benefits for economically disadvantaged youth.

- The State Board of Education should expand the Job Readiness Training Program and other school-to-work transition and guidance programs for the purpose of better preparing high school seniors to make the transition from school to jobs or to skills-training in the community college system.

- Local school boards should provide educational services to pregnant teenagers and teenagers with newborn children.

- Local school boards with the assistance of the State Board of Education should continue — and improve — efforts to attract women and minorities into mathematics, science and foreign language programs to enable them to pursue careers in those fields.

- The State Board of Education should initiate a study to identify and address education problems in rural areas such as funding inequities, low test scores, poor facilities, inadequate equipment and supplies, poor maintenance, long hours of travel for many children, difficulty in attracting and retaining well-qualified teachers and administrators, and the inability of many rural educators to be involved in upgrading their training because of distance from institutions of higher education.

- The State Board of Education should establish an Office of Rural Education to oversee implementation of special programs for rural schools.

ORGANIZATIONS REPRESENTED ON ADVISORY PANEL

Christian Schools of N.C.
Mental Health Association of N.C.
N.C. Advisory Council on Education
N.C. Annual Testing Commission
N.C. Association of Christian Schools
N.C. Association of Colleges and Universities
N.C. Association for Community Education
N.C. Association for Education of Young Children
N.C. Association of Educational Office Personnel
N.C. Association of Educators
N.C. Association of Independent Colleges and Universities
N.C. Association of Independent Schools
N.C. Association of School Administrators
N.C. Citizens for Business and Industry
N.C. Competency Test Commission
N.C. Congress of Parents and Teachers
N.C. Consortium for Principals and Assistant Principals
N.C. Federation of the Council for Exceptional Children
N.C. Federation of Teachers
N.C. Library Association
N.C. Principals/Assistant Principals Association
N.C. School Boards Association
N.C. School Food Service Association
N.C. School Public Relations Association
N.C. Textbook Commission
N.C. Vocational Association
Personnel Administration Commission for Public School Employees
Professional Educators of N.C.
Rural Education Institute
Southern Association of Colleges and Schools, N.C. Elementary Committee
Southern Association of Colleges and Schools, N.C. Secondary Committee
State Goals and Policy Board

ACKNOWLEDGEMENTS

The members of the Commission wish to recognize the many individuals and organizations who contributed to this report. Citizens across North Carolina demonstrated their strong interest in educational reform through letters, phone calls, papers, and testimony at five public hearings. Comments were gathered in small group meetings, individual sessions with local superintendents, and many ad hoc sessions with leaders from business, education, and government. The Friends for Improving Public Education group followed the actions of the Commission and many individuals submitted comments. Representatives of the Advisory Panel organizations served the Commission by reviewing draft reports and by submitting important revisions. In addition, the final report of the Commission draws heavily upon earlier studies. The *Report of the Commission on the Future of North Carolina* and the *Report of the Governor's Task Force on Science and Technology* were invaluable resources in the preparation of this document.

Commission members are especially grateful to the staff for their excellent work and strong commitment to this effort.

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Education for Economic Growth

AN ACTION PLAN

FOR

NORTH CAROLINA

Executive Summary

**The Report and Recommendations
of**

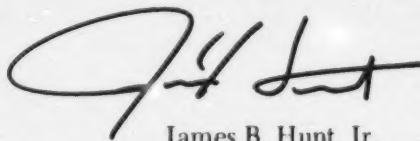
The North Carolina Commission on Education for Economic Growth

TO THE PEOPLE OF NORTH CAROLINA:

The recommendations of the Commission on Education for Economic Growth form a blueprint for improving North Carolina's public schools; they provide a plan for ensuring the future prosperity and well-being of our children and the continuing soundness of our state's economy.

These recommendations have one overwhelming, urgent theme: *raised expectations* — raised expectations for students, for teachers, for parents, for school leaders; raised expectations for what our schools must and can accomplish.

A state can postpone some public needs, for a time, without dire consequences — but not education; if we fail there, our failures may never be repaired. For, in education, we touch lives. All whose decisions influence the quality of our schools — parents, teachers, businessmen and women, administrators, board members, legislators, and other citizens — are touching lives. We are leaving a legacy. We are affecting eternity. Let us do it well.



James B. Hunt, Jr.
Governor

EA 017 068 (Part 2)

EXECUTIVE SUMMARY

Between now and the year 2000, North Carolina's population will grow by roughly one million. Our state's economy, during the next two decades, will be challenged to create 900,000 new jobs. And we must meet this challenge amidst sweeping economic and social changes which are already under way:

Advancing technology is changing old industries, creating new ones — and changing job demands. Workers in North Carolina's traditional industries — agriculture, tobacco, furniture, and textiles — are already finding their jobs changed by new equipment and new techniques. And new industries based on new knowledge — in microelectronics and biotechnology, for example — require workers with highly developed skills.

International competition is challenging North Carolina. Our state's textile and agriculture industries have been buffeted already by international competition. In the future, such competition will be more intense — and no industry will be immune.

As the nation's economy comes to depend more on service industries, North Carolina's economy will change. As service occupations become more important, we in North Carolina must make sure that we provide not just enough service jobs — but enough good ones: service jobs that offer high pay and upward mobility. Such jobs in the service sector — in banking, computer services, health-care technology and engineering, for example — are "knowledge-intensive;" they demand expert knowledge and well-developed skills.

The complicated challenges of business and industry in the future will demand that young people entering the job market have not only a stronger grounding in the basic skills — reading, writing and arithmetic — but that more of them possess sophisticated skills as well: skills in reasoning, communicating, critical thinking, problem-solving and creativity.

Creating a work force rich in these "skills for the future" is a job that must begin in our state's elementary and secondary schools. And it must begin now.

We in North Carolina have made a good start. But we still have a long way to go. More than 22,000 students still drop out of our high schools every year. Not enough students are enrolling in mathematics and science courses to meet our future needs for trained technicians and scientists. And our colleges and businesses are having to spend too much money on remedial education for students who have not learned enough in school.

Our state's resources are not unlimited — and they must be spread widely to meet a wide range of needs. Future spending on education must be carefully targeted. The North Carolina Commission on Education for Economic Growth, therefore, has made a series of recommendations specifically designed to improve student performance, attract and retain good teachers, enrich the curriculum and provide computers and other learning tools.

Making the investments that are necessary to effect our recommendations will produce prompt and measurable results: Student performance will improve. Dropout rates will decline. Courses in remedial reading and mathematics will become less prevalent. Enrollments in advanced mathematics, science and language courses will increase. Teachers' skills and morale will improve. The retention rate of good teachers will improve. The number of ineffective teachers will decline. The number of new jobs created in North Carolina — jobs that offer chances for upward mobility — will steadily increase.

The Commission members firmly believe that North Carolina can do what is necessary to improve education in our state. We are convinced that our state can successfully put these recommendations into effect and thus create not only a more prosperous economy, but more satisfying and productive lives for all our people.

What is needed now, most of all, is public support — enthusiastic, knowledgeable support from all the people of North Carolina — on behalf of Education for Economic Growth.

“ . . . It is time, in our judgment, to put learning first. We must make it clear that the academic mission of our schools is their paramount mission . . . If our schools fail to teach and to teach well, it will matter little in the end that they succeed in other things.”

—The Commission

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RECOMMENDATIONS

#1: Create Broader, More Effective Partnerships for Improving Education in North Carolina. Establish local business/community/education task forces on education for economic growth, local foundations for public education, local school advisory councils and post-secondary partnerships. Expand the scope of the Business Committee for Math/Science Education to coordinate business and education partnership efforts.

#2: Improve the Curriculum of North Carolina's Public Schools. Specify the competencies that young people should master. Promote students only when they have mastered certain pre-specified competencies. Provide summer remediation for students not meeting minimum competencies. Teach more science and mathematics at all grade levels. Review and strengthen vocational education programs. Include positive values — such as honesty, loyalty and patriotism — in the school curriculum.

#3: Express a Higher Regard for Teachers and for Teaching in North Carolina. Raise teacher pay. Provide a career growth program for teachers. Create a Center for the Advancement of Teaching where teachers can sharpen their knowledge and skills. Provide scholarships to attract superior scholars into teaching. Involve teachers in decision-making processes. Strengthen quality assurance standards for teacher trainees — and extend quality assurance standards to experienced teachers. Improve professional development opportunities for teachers. Establish a Network of Mathematics/Science Education Centers to increase the availability and quality of mathematics and science teachers.

#4: Improve the Learning Environment in North Carolina's Public Schools. Reduce class size by providing more teachers. Relieve teachers of distracting non-teaching duties and provide them with clerical assistance. Establish more rigorous and demanding discipline requirements and reduce classroom interruptions. Establish a North Carolina Microcomputer Education Fund to assist in planning the use of computers in the schools. Provide funds for purchasing computers. Increase funds for textbooks, laboratories and vocational education equipment. Plan for the improvement of school facilities.

#5: Improve the Leadership and Management of North Carolina's Public Schools. Raise pay for administrators. Establish quality assurance standards and a career growth program for administrators. Establish a statewide management training program for principals. Provide administrators with professional development opportunities. Install business-management systems to improve the management of the schools.

#6: Strengthen Existing Programs — and Create New Ones — to Serve Special Groups and to Fulfill Special Needs in North Carolina's Public Schools. Continue to serve students with exceptional needs. Prepare students better for making the transition from school-to-work or from school-to-college through improved guidance and other programs. Do a better job of identifying and serving academically talented students. Expand the Governor's Schools Program and strengthen the North Carolina School of Science and Mathematics. Establish Centers for Excellence to test and demonstrate effective new methods of education. Increase efforts to prevent dropouts. Encourage efforts to attract women and minorities into mathematics, science and foreign language programs. Establish an Office of Rural Education.

Single and multiple copies of this Executive Summary and the Final Report of the Commission are available.

For ordering information, or for more information about the North Carolina Commission on Education for Economic Growth, contact:

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